

CALIFORNIA DIVISION OF MINES AND GEOLOGY

FAULT EVALUATION REPORT (FER-3)

MARCH 11, 1976

1. Name of fault. Two unnamed faults west of the Concord fault.
2. Location of faults. SW corner of the Port Chicago quadrangle map, City of Martinez, Contra Costa County (see Plate 1).

3. Reason for evaluation. The Concord fault, which is also on this quad, ^{currently} is being revised.

4. List of references

- a) Sims, J.D., Fox, K.F., Bartow, J.A., Helley, E.J., 1973, Preliminary geologic map of Solano County and parts of Napa, Contra Costa, Marin, and Yolo Counties, California: U.S. Geological Survey Miscellaneous Field Studies Map MF-484.
- b) Weaver, C.E., 1949, Geology of the Coast Ranges immediately north of the San Francisco Bay region, California: Geological Society of America Memoir 35, 242 p.
- c) Engeo, 1975, Subdivision evaluation related to surface fault rupture, City of Martinez, California: (on file at Martinez Planning Department).
- d) Sims, J.D., Personal communication, March 10, 1976.
- e) California Division of Mines and Geology, 1974, Special Studies Zones, ^{Official Map,} Port Chicago quadrangle.

5. Summary of available data.

- a. Faults AB and CD are shown on copy of part of Port Chicago quad, attached as Plate 1.
- b. Fault AB, as shown by Sims, is 4000' long and strikes N 60° E.

- c. Fault CD, as shown by Sims, is 1.5 miles long and strikes N 20° E.
- d. Fault CD is shown by Sims to cut Quaternary terrace deposits on the Shell Oil refinery property.
- e. Fault AB is shown by Sims to cut Quaternary alluvium in the vicinity of U.S. 680.
- f. From personal communication with Sims, it was learned that both faults AB and CD were based solely on air photo interpretation.
- g. Weaver does not show either of these two faults.
- h. Engeo report has trench logs and seismic refraction data which they interpret to show no faulting.

6. Interpretation of air photos

- a) U.S. Geological Survey photos EF 1, numbers 125-126, and VU0 1, numbers 53-54, were used. The scale of these photos is approximately 1:30,000, and they are dated 1958.
- b) No fault related lineations were observed along fault CD, with the possible exception of the NE end. Here, a northeast striking topographic lineament crosses a dissected terrace deposit. However, ~~on the ground (to be observed)~~, no recent fault features showing the sense of offset could be observed.
- c) Fault AB was not covered by air photos.

7. Field observations 3/3/76 (see Plate 1 for location).

- a. No evidence of faulting was noted on fault AB at station 4.
- b. Fault CD
 - (1) Station 1, there is no evidence of faulting in a well-exposed continuous outcrop about 1000' long.
 - (2) Station 2, there is no evidence of faulting in a freshly dug cut at a construction site.

- (3) Station 3, there is no evidence of surface faulting in an outcrop of terrace gravel materials. The gravel was, however, tilted about 12° to the southeast. Whether this tilting is a primary dip of the terrace materials or a result of tectonism is not known.
- (4) The northeast end of fault CD was not field checked due to access problems at Shell refinery.

8. Conclusions:

- a) Fault AB showed no evidence of faulting in field observations.
- b) Fault CD showed no unequivocal evidence of faulting after field observations. Due to lack of access rights on Shell refinery property, the air photo lineation at the NE end of CD could not be checked. However, even if this is a fault here, it would only offset a Pleistocene unit, not Holocene and therefore, would not be sufficiently active (see Figure 1).

9. Recommendations

Remove faults AB and CD and their zones from the A-P map.

10. Investigating geologist's name, date.

EDWARD J. BORTUGNO, 3/11/76.

Edward J. Bortugno

Comments

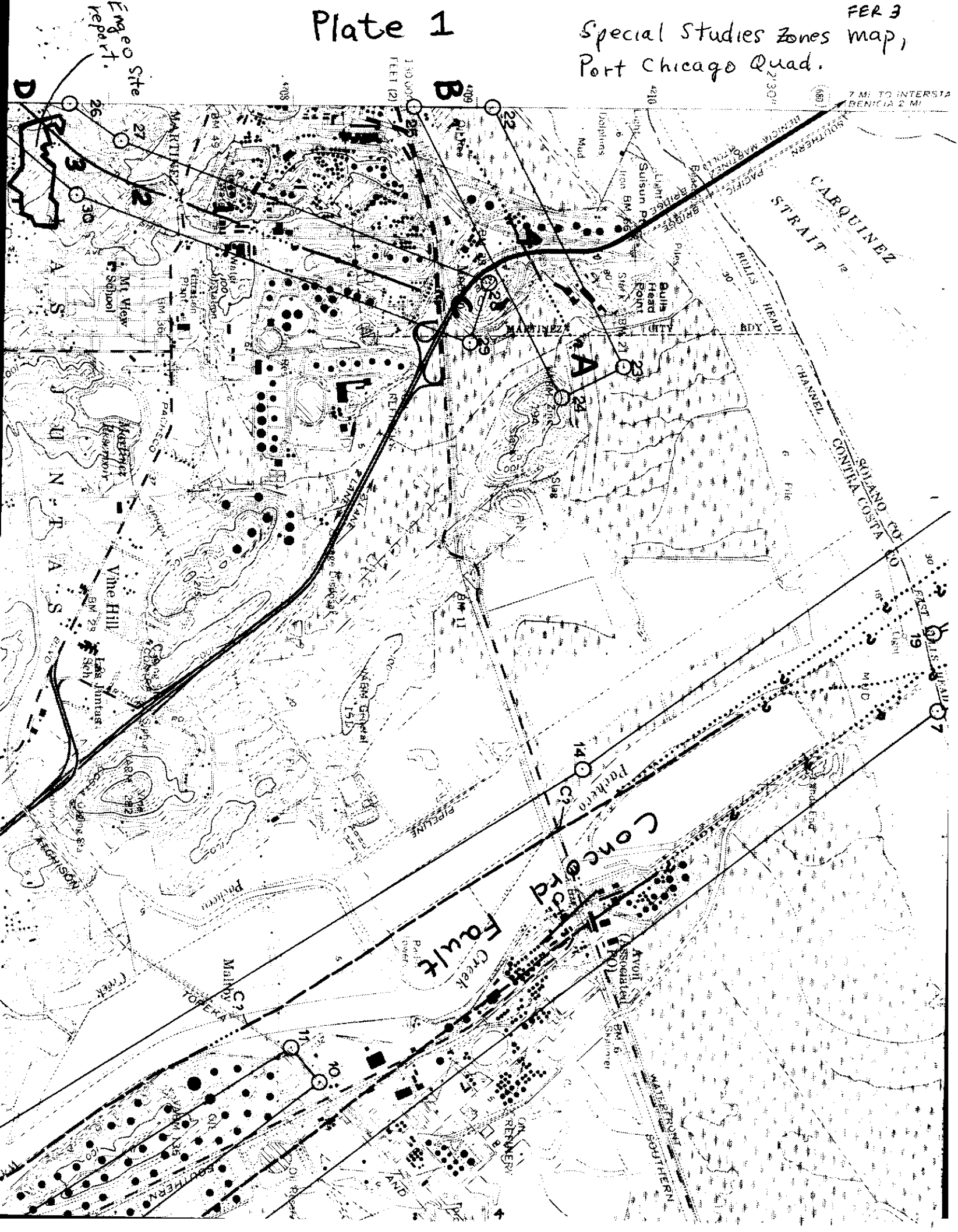
1. These two minor faults would not have been zoned in the first place if we knew they were based solely on photo lineaments.
2. I check photos in stereo pairs and could see no through-going lineaments (the area is largely developed) and could observe no evidence of recent faulting along their projected traces.
3. The two ^{minor} faults trend northeast and east -- as such they are very unlikely to be significant hazards in terms of fault rupture.
4. Based on my observations and the above facts, I do not see any substantial basis for assuming the faults shown by Sims are potential hazards. The fault traces could not be seen on air photos or verified in the field. I recommend deleting the faults and zones from our official maps.

Earl W. Hart 4/1/76

Plate 1

Special Studies Zones map,
Port Chicago Quad.

FER 3



SCHEMATIC STRATIGRAPHIC COLUMN

welded with intercalated bedded agglomeritic tuff
pumicitic tuff. Intraformational contacts shown

tuff.
tuff and agglomerate.
dded and intertonguing, tuffaceous. Includes
, silt, gravel, and bedded turf.
acaville area. Columnar jointing poorly devel-
Durrell, 1959; Gromme, 1963), the K-Ar age of
64). These data, in addition to the mapped
of Miocene age.
dy clay shale, and medium-grained, moderately

dstone with conglomeratic lenses; massive
arse pebbly sandstones and shale.

arse-grained, moderately hard sandstone;
y sandstone capped by pebbly crossbedded

ined quartzose sandstone; calcareous; locally
ome localities, shale in the middle of the
hree members.

undant muscovite; locally sandy.

iceous; locally contains thin beds of argillaceous,

y, medium-grained sandstone with thin interbeds of
so Shale.

le with minor amounts of white to light-gray
gray and reddish brown.

rish-white, tuffaceous sandstone with irregularly
s.

own weathering to grayish white to yellowish white;
limestone near base.

rdstone, fine- to medium-grained, with interstratified
weathering.

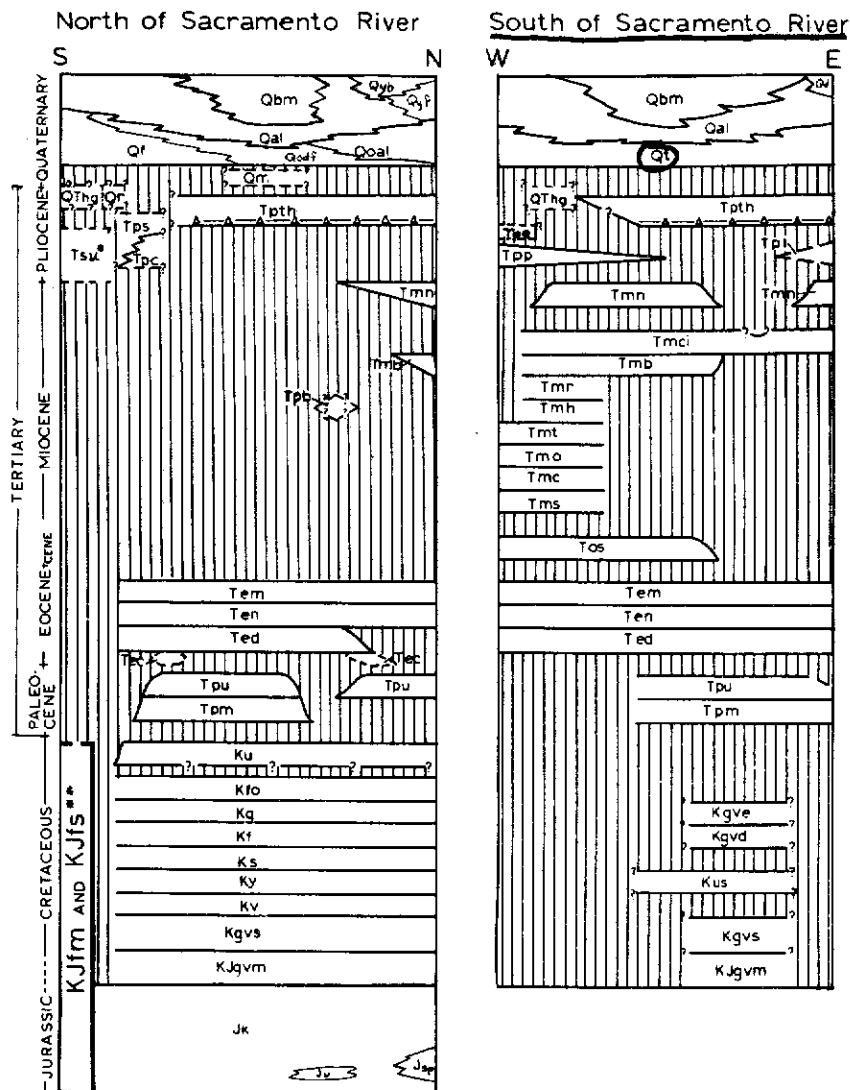
light-brown sandstone; basal part locally con-

ish- to yellowish-brown, medium- to coarse-grained,
bedded and pebbly.

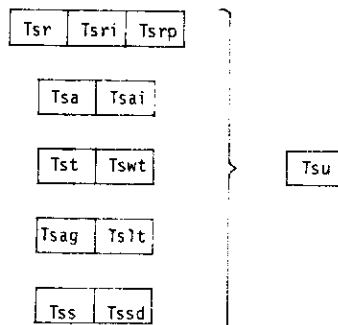
aceous light-gray shale and sandstone

-brown silty clay shale. Locally, a sandstone lens
ts.

Fig. 1
(Sims et al)
1973



* The grouping and order of Sonoma Volcanics subdivisions is by lithology only, and relative ages and stratigraphic relations, other than locally, are unknown. No correlations are implied.



** KJfm and KJfs are tectonostratigraphic units. Heavy line around units KJfm and KJfs represents fault contact with units of the same age.

PRELIMINARY GEOLOGIC MAP OF SOLANO COUNTY

A-16-6
FER-3

Branch of Western Environmental Geology
345 Middlefield Road
Menlo Park, California
94025

October 13, 1978

Darwin Meyers
County Geologist
P.O. Box 951
Martinez, CA 94553

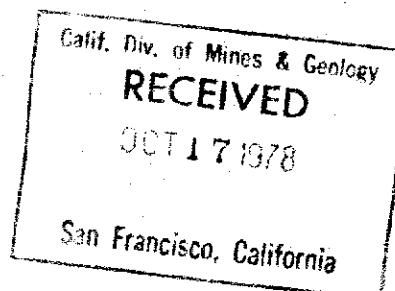
Dear Darwin:

In discussing the geology of the Martinez area with C. Winterholter I discovered that we made an error on map MF-484 just beyond the southern terminous of the Benicia-Martinez bridge. The two faults that are shown to cut terrace deposits should be dotted instead of dashed to conform with the original compilation data. These faults, therefore, should not be included in the Alquist-Priolo zone unless there is independent evidence that the faults have moved in Quaternary time.

Sincerely yours,

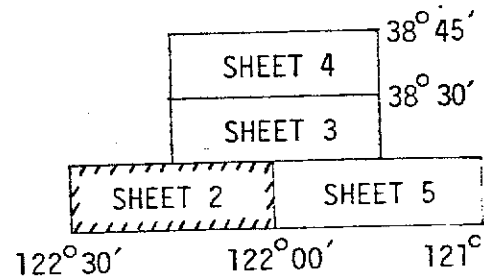
Earl E. Brabb

cc: Earl Hart (CDMG)
John Sims





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